THE MINISTER OF STATE OF THE MINISTRY OF SCIENCE AND TECHNOLOGY (SHRI KAPIL SIBAL): (a) to (d) A proposal has been made by the Scientific Advisory Council to the Prime Minister for setting up an autonomous Science and Engineering Research Foundation. The details are being worked out.

Export of Bio-Diversity Products

2590. SHRI RAMA MUNI REDDY SIRIGIREDDY: Will the Minister of SCIENCE AND TECHNOLOGY be pleased to state:

(a) the steps Government are taking to convert bio-diversity resources into value-added products for use in domestic requirements and also for exports; and

(b) the total amount of herbs, germ plasm and micro-organisms exported by India during the last 3 years; year-wise and country-wise?

THE MINISTER OF STATE OF THE MINISTRY OF SCIENCE AND TECHNOLOGY (SHRI KAPIL SIBAL): (a) Some Central Ministries/ Departments/Institutes are supporting research programmes for converting biodiversity resources into value-added products for use in domestic requirements and also for exports. The Department of Biotechnology (DBT) has sponsored various research and development projects for developing different value added products such as herbal drugs, natural dyes, enzymes, biomolecules, biopesticides, biofertilizer and immobilized microbial consortia for degradation of oily sludge etc. The National Bioresource Development Board (NBDB) has been set up mainly for development and sustainable utilization of bioresoruces especially for the development of new products and processes through biotechnological interventions. The DBT has recently established an autonomous institute namely Institute of Bioresources and Sustainable Development (IBSD) at Imphal, Manipur. The Council of Scientific and Industrial Research (CSIR) has a network programme on "Discovery of new bioactive molecules" where many national labs/universities are involved in collecting micro-organisms from different ecological niches, making extracts and screening the same against targets. These micro-organisms are preserved in Microbial Type Culture collections at IMTECH, Chandigarh for future use.

(b) Based on the available data, the total amount of herbs (such as Psyllium husk and seeds, opium poppy seeds, senna leaves & pods and

tukmaria) exported during the last three years are summarized in the Table I. The year-wise export of germplasm lines of various crops from India for research purpose to other countries during the last three years is given in Table II. There is no authentic data available on quantity of the export of micro-organisms during the last three years.

Table I: Year-wise export of major herbs

S. No.	Name of commodity	Name of the country and quantity (in tonnes) exported is in parenthesis		
		2001-02	2002-03	2003-04
1	2	3	4	5
1.	Psyllium husk	Bangladesh (11.00) France (347.86) Japan (8.00)	Belgium (89.27) France (533.16) Hungary (28.00) Japan (13.52) Turkey (3.00) U.K. (12.25) U.S.A. (1.34)	Argentina (3.00) Australia (132.05) Bahrain (4.60) Bangladesh (601.42) Belgium (135.17) Brazil (0.75) Canada (68.50) Chile (3.00) Chinese Taipei (24.50) China (44.00) Columbia (15.55) Crech Republic (13.20) Denmark (50.00) Finland (0.5) France (152.34) Germany (252.50) Guadeloupe (9.95) Gautemala (1.60) Hong Kong (91.05) Indonesia (20.38) Israel (1.00) Italy (42.25) Japan (192.68) Jordan (01.50) Kenya (2.09) Korea (122.55) Kuwait (2.00) Latvia (2.50) Malawi (0.04) Malaysia (55.40) Maldives (0.41)

1	2	3	4	5
				Mauritius (0.70) Myanmar (0.20) Mexico (72.50) Mozambique (0.13) Nepal (0.92) Netherlands (10.81) New Zealand (6.5) Pakistan (166.66) Philipines (12.07) Portugal (0.02) Qatar (0.80) Russia (7.00) Saudi Arab (15.92) Singapore (37.47) South Africa (5.10) Spain (535.03) Sri Lanka (5.00) Sweden (76.06) Thailand (2.02) Turkey (0.02) UAE (74.57) UK (452.82) USA (3705.56) Uruguay (4.00)
2.	Psyllim seeds	—	Australia (43.93) Germany (0.60) Shri Lanka (1.62) UAE (0.43) UK (1.00)	Afghanistan (20.10) Australia (78.96) Bahrain (2.08) Bangladesh (120.10) Belgium (69.89) Canada (11.30) Chile (17.00) China (1.10) Columbia (0.30) Denmark (20.00) France (525.48) Germany (178.70) Hong Kong (58.50) Japan (49.55) Kazakhstan (0.35) Kenya (1.20) Korea (18.63) Malaysia (22.20) Maldives (0.20) Mexico (54.00) Nepal (0.65)

1	2	3	4	5
				New Zealand (5.90) Oman (0.18) Pakistan (124.62) Phillipines (1.00) Portugal (10.00) Saudi Arab (9.00) Singapore (1.10) South Africa (0.10) Spain (254.40) Sweden (40.04) Thailand (2.00) *Trinidad (12.00)* UAE (6.58) UK (84.50) USA (1718.37)
3.	Opium poopy seeds	Australia (0.20) Canada (3.10) Japan (8.00) Kuwait (0.05) Malawi (0.17) South Africa (0.40) UK (12.00) USA (75.29)	Canada (2.75) France (0.35) Japan (5.00) south Africa (1.50) Spain (10.00 USA (34.90)	Australia (17.40) Canada (2.75) Japan (7.00) Kenya (0.20) Mauritius (3.02) New Zealnad (2.00) South Africa (12.00) Tanzania (0.03) UK (3.10) USA (57.41)
4	Senna leaves and pods	Argentina (56.00) Australia (23.39) Bangladesh (30.00) Belgium (10.00) Brazil (287.87) Bulgaria (5.50) Canada (5.16) Chinese Taipei (225.74) China (1117.44) Columbia (50.14) Equador (4.00) Egypt (51.09) France (739.85) Germany (1077.16) Greece (32.80) Guadeloupe (10.00) Hong Kong (559.07) Israel (97.50) Italy (89.03)	Argentina (26.90) Australia (40.00) Bahrain (0.05) Brazil (167.84) Bulgaria (55.00) Canada (35.82) Chile (0.99) Chinese Taipei (115.40) China (1133.72) Columbia (33.77) Equador (3.92) Egypt (117.58) France (323.38) Germany (139.34) Greece (54.65) Guatemala (3.00) Hong Kong (360.02) Hungary (14.00)	Argentina (72.60) Australia (54.00) Bahrain (0.10) Brazil (407.70) Bulgaria (26.00) Canada (3.58) Bhile (4.10) Chinese Taiper (184.76) China (1520.02) Columbia (39.04) Çuba (28.00) Equador (3.92) Egypt (74.97) France (172.98) Germany (1428.42) Greece (19.50) Guatemala (1.90) Hong Kong (1015.97) Israel (50.00)

1	2	3	4	5
		Japan (863.43) Jordan (9.45) Korea (41.50) Latvia (14.00) Lebanon(17.92) Malagasy (91.94) Malaysia (94.32) Myanmar (1.26) Mexico (53.79) Netherlands (7.11) Nigeria (19.00) Pakistan (23.14) Philippines (19.43) Poland (312.05) Portugal (57.75) Saudi Arab (7.00) Singapore (20.20) South Africa (4.52) Spain (426.93) Sri Lanka (43.50) Switzerland (77.77) Syria (19.00) Thailand (348.83) Turkey (208.92) UAE (35.25) UK (22.14) Ukraine (11.76) USA (914.41) Venezuela (2.97)	Israel (74.36) Italy (146.52) Japan (1092.94) Jordan (5.00) Korea (2.00) Kuwait (4.7) Latvia (134.30) Lebanon (76.00) Malaysia (107.41) Maldives (7.89) Mali (1.73) Mauritius (4.17) Mexico (156.16) Morocco (9.75) Nepal (2.00) Netherlands (262.62) Nigeria (4.89) Pakistan (143.11) Philippine (16.30) Poland (477.69) Portugal (23.00) Russia (92.52) Saudi Arab (27.16) Singapore (68.40) South Africa (16.44) Spain (602.90) Sri Lanka (56.02) Switzerland (347.96) Syria (38.49) Thailand (440.89) Turkey (203.58) Turkmenistan (24.58) UAE (57.45) UK (17.49) USA (945.59) Uruguay (35.40) Venezuela (17.57) Yemen Republic (12.00) Unspecified (5.02)	Italy (250.98) Japan (1037.13) Jordan (15.00) Kenya (0.20) Korea (13.40) Kuwait (1.00) Latvia (240.18) Lebanon (49.88) Malaysia (110.20) Mauritius (10.85) Mexico (413.18) Morocco (20.80) Nepal (6.99) Netherlands (38.00) New Zealand (2.00) Nigeria (20.00) Pakistan (26.46) Philippine (17.90) Poland (429.00) Portugal (47.50) Qatar (2.00) Russia (63.95) Saudi Arab (6.00) Singapore (69.00) South Africa (43.91) Spain (507.98) Sri Lanka (4.10) Switzerland (714.50) Syria (20.00) Th;ailand (258.15) Trinidad (4.72) Turkey (220.13) UAE (112.65) UK (38.37) Ukraine (47.41) USA (795.52) Uruguay (8.00) Venezuela (39.10) Vietnam (162.00)
5.	Tukmaria	-		Australia (0.20) Fiji Island (0.10) Germany (12.10) Indonesia (1.00) Ireland (20.00) Kuwait (1.00)

1	2	3	4	5
				Malawi (0.05) Malaysia (31.00) Mauritius (4.00) Oman (0.05) Reunion (0.22) Saudi Arab (2.00) Singapore (1.00) South Africa (1.80) Tanzania (0.16) Thailand (14.00) UAE (105.35) UK (1.00) USA (11.28)

Table II: Export of Germplasm Lines for research purposes

Country	2002	2003	2004	Total
Brazil	5	—	—	5
Canada	9	—	—	9
Germany	2	—	—	2
Iraq	20	—	—	20
Mauritius	2	1	—	3
Myanmar	40	—	—	40
Philippines	—	79	22	101
Syria	3	—	—	3
Sri Lanka	15	—	29	53
Taiwan	—	27	—	27
Thailand	4	—	—	4
Vietnam	15	—	—	15
Australia	—	13	—	13
Eritrea	—	1	—	1
Oman	—	4	—	4
Russia	—	1	—	1
Switzerland	—	178	—	178
Uzbekistan	24	—	—	24
USA	—	74	—	74
UK	—	—	19	19
Niger	—	—	1	1
Kenya	—	—	1	1
Total	**139**	**387**	**72**	**598**